

STAFF REPORT

CEASE AND DESIST ORDER FOR RANCHO MURIETA COMMUNITY SERVICES DISTRICT AND RANCHO MURIETA COUNTRY CLUB SACRAMENTO COUNTY

INTRODUCTION

Rancho Murieta Community Services District (RMCS D) owns and operates a wastewater treatment facility (WWTF) in Rancho Murieta, Sacramento County. Tertiary treated, disinfected wastewater is reclaimed to irrigate two golf courses operated by the Rancho Murieta Country Club (RMCC). The WWTF and golf course reclamation are regulated by Waste Discharge Requirements (WDRs) Order No. 5-01-124. RMCS D is solely responsible for collection and treatment of the wastewater, and RMCC is solely responsible for all systems and activities related to use of the reclaimed water for golf course irrigation.

The RMCS D WWTF serves the Rancho Murieta community, and comprises five clay-lined wastewater treatment ponds and two clay-lined wastewater storage reservoirs covering approximately 50 acres. The WWTF relies solely on reclamation at the RMCC golf courses to dispose of all treated wastewater.

The WWTF is currently committed to serve approximately 2,500 residences (some of which are under construction or not yet constructed) and a commercial center. The secondary treatment system capacity is 1.55 million gallons per day (mgd) average daily dry weather flow and 2.0 mgd peak wet weather flow. The tertiary treatment system capacity is 3.0 mgd. Current influent flows are approximately 0.47 mgd average daily dry weather flow, and are expected to increase to 0.59 mgd to accommodate a total of 2,820 residences within the next five to eight years. The WDRs permit an influent flow of 1.5 mgd; however, this limit is based only on treatment capacity.

Previous compliance issues led to adoption of Cease and Desist Order (CDO) No. 5-01-125 in May 2001. The CDO required that the Dischargers comply with applicable sections of the water recycling regulations contained in Title 22, and either control storm water runoff to eliminate discharges of reclaimed effluent from the RMCC golf course lakes to surface waters or obtain a National Pollutant Discharge Elimination System (NPDES) permit to regulate those discharges.

With the exception of obtaining an NPDES permit to regulate overflows from the golf course storage lakes, the Dischargers have satisfactorily completed the tasks set forth in the CDO. However, although the Dischargers consistently submitted the required technical reports on time, several of the reports were inadequate and required revision, so that compliance was delayed beyond the dates set forth in the CDO. In addition, there were other compliance issues during this time period, as shown in the chronology of relevant reports and correspondence since adoption of the 2001 CDO. This chronology is included as Attachment A to this staff report.

PROPOSED CEASE AND DESIST ORDER

The proposed CDO rescinds CDO Order No. 5-01-125 and addresses the following current compliance issues:

- a. Overflow of reclaimed water from the RMCC golf course storage lakes to surface water during the rainy season;

- b. Inadequate wastewater storage and disposal capacity at the RMCCSD wastewater treatment facility;
- c. Odors emanating from the RMCC storage lakes, as well as the golf course irrigation system; and
- d. Potential groundwater degradation from the RMCCSD wastewater treatment facility.

Reclaimed Water Storage Lake Overflows

During the golf course irrigation season, RMCC stores tertiary disinfected wastewater in man-made surface impoundments (known as Bass Lake, Lake 10, Lake 11, Lake 16, and Lake 17) prior to pumping it to the golf course irrigation system. In addition to storing reclaimed water, the RMCC lakes receive storm water runoff from the surrounding area, causing them to overflow and discharge into surface waters in violation of the WDRs during the rainy season. Therefore, CDO No. 5-01-125 required that the Dischargers either cease the overflows or obtain an NPDES permit to regulate the overflows by November 2002.

On 5 June 2002, RMCC applied for a NPDES permit for the winter discharges from the golf course lakes to the Cosumnes River. Staff was not able to process the application (although staff had extensive interaction with the Discharger on numerous other issues, as shown in Attachment A). On 24 February 2004, the Executive Director of the State Water Resources Control Board (State Board) issued a guidance memorandum entitled *Incidental Runoff of Recycled Water* that defined incidental runoff as “...small amounts of runoff from intended recycled water use areas, overspray from sprinklers that drifts out of the intended use area, and overflow of ponds that contain recycled water during storms.” The memorandum states that recycled water ponds should be designed and operated not to spill during wet months, but that “...If discharges from a reclamation project occur routinely, such discharges can be regulated under a municipal storm water NPDES permit in most cases.” It is noted that this memorandum simply provides State Board staff’s perspective on how incidental runoff of recycled water should be managed and is not a policy document.

The Dischargers subsequently stated their intent to manage the golf course’s reclaimed water storage lakes in accordance with the State Board guidance memorandum instead of under an individual NPDES permit. On 28 February 2005, RMCCSD submitted a technical report entitled *In Support of a Storm Water Discharge Permit*. The report included an estimate of overflow volumes from the golf course lakes during an average precipitation year, as summarized below.

Month	<u>Overflow Volume (gallons)</u>				Percent Reclaimed Water ¹
	<u>Bass Lake</u>	<u>Lakes 10/11</u>	<u>Lakes 16/17</u>	<u>Total</u>	
October	0	0	0	0	--
November	0	0	0	0	--
December	0	0	0	0	--
January	3,370,000	920,000	260,000	4,550,000	54.7
February	3,400,000	3,230,000	440,000	7,070,000	48.1
March	3,170,000	2,950,000	400,000	6,520,000	41.4
April	0	0	0	0	--

-- Not applicable.

¹ Flow-weighted average.

The report proposed that the Dischargers would comply with the State Board Executive Director's incidental runoff memorandum by ceasing reclaimed water discharge to the golf course lakes on 15 October each year, then allowing the golf course lakes to drop to three feet of freeboard, supplementing the irrigation supply with raw water only. After that date, the lakes would only receive raw water from the Cosumnes River (as necessary for irrigation and aesthetic reasons). The report stated that reclaimed water would not be conveyed to RMCC prior to 15 March each year, and only when freeboard in the RMCC lakes was two feet or greater.

Staff approved the operational plan, agreeing that it would be consistent with the State Board guidance memorandum, and subsequently notified the RMCCSD that it was required to obtain coverage under the NPDES General Permit for the discharge of storm water as a non-traditional small Municipal Separate Storm Sewer System (MS4) by 28 September 2005. RMCCSD timely submitted a Notice of Intent and Storm Water Management Plan to apply for coverage under the MS4 General Permit. RMCCSD's intent was that the golf course discharges, as well as other storm-related discharges, would be covered under the MS4 permit. Staff review of the MS4 permit application is pending.

New information regarding regulation of overflows from reclaimed water storage facilities has recently become available. On 21 October 2005, the Regional Board adopted a revised Master Reclamation Permit for the City of Roseville WWTF. The revised permit was prepared in accordance with the terms of a settlement agreement between the Regional Board, the City of Roseville, and Deltakeeper, *et al*¹. Deltakeeper had filed suit against the both the Regional Board and the City of Roseville, alleging that allowing reclaimed water storage ponds to overflow and thereby discharge wastes to surface waters without an NPDES permit is a violation of the Clean Water Act. The settlement agreement stipulates that reclaimed water storage pond overflows to surface water are prohibited. The City of Roseville's revised Master Reclamation Permit, as adopted by the Regional Board, now includes that prohibition.

In light of the settlement agreement, staff re-evaluated the February 2005 technical report submitted by RMCC. The technical report states that the golf course ponds are designed to overflow during the winter, and up to 18 million gallons of mixed reclaimed wastewater and storm water could spill to the Cosumnes River between the months of January and March during an average rainfall year. RMCC estimates that wastewater would constitute approximately 48% of the spill volume. This discharge does not appear to be "incidental runoff" as described by the Executive Director's guidance memorandum, and based both on the volume of RMCC's overflow and on the Roseville settlement, it is appropriate to prohibit overflow discharges from Bass Lake, Lake 10, Lake 11, Lake 16, and Lake 17 to surface waters without an NPDES permit.

Staff believes that if RMCC were to completely drain the golf course lakes of all reclaimed water prior to the onset of the rainy season, subsequent overflows of storm water mixed with makeup water from the Cosumnes River may be eligible for coverage under the MS4 General Permit. The application for coverage would be subject to a 60-day public review, and a hearing will be held if requested before coverage under the MS4 General Permit is granted.

¹ The petitioners were Deltakeeper and the California Sportsfishing Protection Alliance.

Therefore, the proposed CDO prohibits overflow discharges from the RMCC golf course lakes to surface waters without an NPDES permit (either an individual permit or the MS4 General Permit), and allows two years for RMCC to either cease the overflow discharges or obtain an NPDES permit for them.

Staff's review of the Dischargers' MS4 General Permit application will continue independent of this enforcement order, and the MS4 permit that staff plans to propose in 2006 will not cover discharges from the country club's reclaimed water ponds unless the Dischargers submit a revised application that proposes an acceptable plan for management of the golf course lakes.

Wastewater Treatment Facility Storage and Disposal Capacity

Discharge Specification B.12 of WDRs Order No. 5-01-124 requires that the WWTF be designed and maintained to provide complete containment of wastewater during the 100-year, 365-day precipitation event. Discharge Specification B.13 requires that the WWTF ensure adequate storage capacity to comply with Discharge Specification B.12 and provide two feet of freeboard during the rainy season by 1 October each year.

Beginning in the summer of 2003, staff became concerned about RMCCSD's ability to provide adequate storage to comply with those requirements, and requested that RMCC either demonstrate adequate capacity or plan, design and construct capacity improvement as needed to comply with the WDRs. After two inadequate submittals, RMCCSD submitted an acceptable water balance on 22 June 2005.

The water balance model submitted by RMCCSD shows that the current storage and disposal capacity of the WWTF is 0.45 mgd as an average daily dry weather flow, which is significantly less than the 2005 average daily dry weather flow of 0.47 mgd. The model predicts that the WWTF secondary storage reservoirs would be in violation of the two-foot freeboard requirement in April if the 100-year annual precipitation design event were to occur this year. The problem is primarily due to the fact that the CSD had to delay operation of the tertiary plant for several months in 2003 to finish disinfection system improvements required by the Department of Health Services. As a result, reclaimed water could not be delivered to the golf course until late in the irrigation season, and the CSD was forced to store the excess secondary effluent through the winter of 2003/2004. Since that time, the CSD has been able to recoup some, but not all, of its effluent storage capacity through reclamation at the golf courses. Based on the CSD's water balance, approximately 280 acre-feet (90 million gallons) of this excess effluent remains in storage. Once the CSD is successful in disposing of this excess through reclamation, the storage and disposal capacity of the WWTF will increase to its design capacity of approximately 0.67 mgd as an average daily dry weather flow.

Considering the water balance results, RMCC's limited demand for reclaimed water, new development projects that RMCCSD has already committed to serve, and development projects currently under review by the Sacramento County Department of Environmental Review and Assessment, the RMCCSD facility currently does not have sufficient wastewater storage and/or disposal capacity to comply with Discharge Specifications B.11, B.12, and B.13 of the WDRs, and RMCCSD must address the storage/disposal capacity deficit. Therefore, the proposed CDO requires that RMCCSD develop a long-range plan for storage and disposal capacity improvements needed to accommodate projected flows through full build out or at least the year 2019. The schedule set forth in the CDO allows 18 months for this planning effort.

WDRs Order No. 5-01-124 imposes an influent flow limit of 1.5 mgd based solely on treatment capacity. However, the water balance shows that RMCS D's storage and disposal capacity are limited to approximately 0.45 mgd. Because the current WDRs impose flow limitations based solely on treatment capacity and the WWTF's storage/disposal capacity is significantly less than the treatment capacity, the proposed CDO imposes a new flow limitation based on the actual current storage/disposal capacity. In order to minimize impacts to development projects already approved, the proposed influent flow limitation of 0.52 mgd as an average daily dry weather flow will allow approximately 180 new connections (some of which may have already been committed to previously approved projects).

The proposed flow limitation will require some curtailment of the projected residential growth rate of 60 connections per year unless RMCS D can (a) complete the capacity improvements sooner than required by the proposed Order, and/or (b) reclaim the excess secondary wastewater stored since 2003. Once the CSD reclaims the excess wastewater and demonstrates that the capacity has been recouped, the proposed Order allows the Executive Officer to approve an increase in the flow limitation to 0.67 mgd as an average daily dry weather flow. This would allow approximately eight years of growth at the rate projected by RMCS D.

The proposed CDO also requires that RMCS D submit and implement an approved contingency plan to ensure that adequate freeboard is maintained and that the WWTF ponds do not overflow during the time that it is planning and constructing the additional storage and disposal capacity and/or reclaiming the excess secondary wastewater.

As stated above, the proposed Order requires that RMCS D submit a Wastewater Facilities and Financing Plan by 30 July 2007. The plan must include the estimated date when influent flows will reach ninety percent of the WWTF's 0.67 mgd design storage and disposal capacity. Based on that projection, the plan must propose specific, enforceable dates for submittal of a Report of Waste Discharge and completion of the first phase expansion improvements. Alternatively, if actual development lags behind the projected growth rate, the proposed order allows RMCS D to revise its projection and propose a new enforceable deadline for the RWD.

The revised WDRs will prescribe appropriate flow limitations based on the actual capacity at the time the WDRs are adopted, and may include a provision to allow the Executive Officer to approve increased flow limitations as further expansion projects are completed.

Nuisance Odors

Discharge Specification J.2 of WDRs Order No. 5-01-124 requires that RMCC manage reclaimed water so that objectionable odors are not perceivable beyond the limits of the golf courses and reclaimed water storage lakes.

In May 2005, Regional Board staff began receiving odor complaints from Rancho Murieta residents. Based on communication with the complainants, staff understood that the odor problem is seasonal and has been recurring every spring and summer for approximately ten years. Most of the complainants stated that the odors are associated with irrigation of the golf course and with the golf course storage lakes. RMCS D and RMCC completed partial vegetation removal and re-grading of the shallow portion of Bass Lake in 2005 to reduce the mass of decomposable plant matter and decrease overall water temperatures to reduce the potential for nuisance odors.

Additionally, staff requested that the Dischargers submit an *Odor Assessment and Mitigation Report*. The report, which was submitted on 21 October 2005, concluded that it is possible that nuisance odors could occur from the discharge of reclaimed wastewater, and identified likely odor sources including “stale” water that remaining in the golf course sprinkler system during the winter and between irrigation events; a sewer pipe and/or wastewater lift station near one of the complainant’s homes; and/or stagnant water conditions in the golf course lakes during the hot summer months. The report proposed a program for community outreach, odor complaint resolution, and odor minimization improvements. Staff believes that this program is appropriate, and therefore the proposed CDO requires that the Dischargers fully implement the proposed odor mitigation program in 2006. RMCC is also required to evaluate the odor mitigation program at the end of the 2006 irrigation season, and if necessary, propose additional odor mitigation measures to be implemented in 2007.

Groundwater Degradation

The groundwater limitations of the WDRs Order No. 5-01-124 state that the WWTF may not cause groundwater to exceed any narrative or numeric water quality objective set forth in the Basin Plan. RMCCSD has been monitoring groundwater at the WWTF since October 2001, and has submitted a Groundwater Limitations Compliance Report and a BPTC² Comprehensive Technical Evaluation Report to comply with the Provisions of WDRs Order No. 5-01-124.

Groundwater is encountered at approximately 34 feet below ground surface at the WWTF. Quarterly groundwater monitoring data since October 2001 indicate that the groundwater gradient is consistently towards the southwest.

Staff’s review of the groundwater monitoring data and technical reports shows that the well downgradient of the wastewater treatment ponds and sludge drying beds (well MW-2) consistently exhibits evidence of groundwater degradation and/or pollution due to salinity constituents. At this point, the Executive Officer could find that RMCCSD is in violation of the Groundwater Limitations of its WDRs and require physical improvements to prevent further groundwater degradation and/or pollution. However, staff’s review of the data finds that there is evidence that local background groundwater quality may vary depending on soil types, and that the single background monitoring well (MW-1) may be representative of background groundwater quality only for the effluent storage reservoirs. Instead of requiring physical improvements at this time, staff believes that it is more reasonable and cost effective to require additional monitoring to determine whether background groundwater quality for the wastewater treatment ponds is different than background groundwater quality for the effluent storage reservoirs. Therefore, the proposed CDO requires that RMCCSD install additional monitoring wells and re-evaluate compliance with the groundwater limitations by December 2007.

OUTSTANDING ISSUES

The tentative CDO was issued for public review on 14 October 2005, and comments were due by 28 October 2005. Staff received comments from Rancho Murieta Community Services District, the California Sportsfishing Protection Alliance (CSPA), Regency Centers (a land development company),

² Per State Water Resources Control Board Resolution No. 68-16, dischargers are required to implement best practicable treatment and control (BPTC) to prevent water quality degradation. BPTC might include, but may not be limited to, advanced treatment to reduce waste constituent concentrations, growing crops on a disposal field, and preventing percolation of wastes through underlying soil to groundwater (e.g., pond lining systems).

and Mr. Gregory Tenorio (a landowner proposing to build a new residence in Rancho Murieta). RMCS and RMCC requested a hearing to resolve several outstanding issues. Copies of the comment letters received by 28 October 2005 are provided as Attachment B of this Staff Report.

Staff considered all of the comments and made several revisions to the tentative CDO. On 14 November 2005, the revised tentative CDO was issued as part of the agenda package for the Regional Board's November 2005 meeting. Additional comments were due by 21 November 2005. In response to the agenda package, staff received comments from Rancho Murieta Community Services District and Rancho Murieta Country Club; Elk Grove Unified School District; Rancho North Properties, LLC; Cassano Kamilos Homes, Inc.; Regency Centers; and several individual Rancho Murieta residents. Copies of these comment letters are provided as Attachment C of this Staff Report.

The Dischargers and one of the interested parties requested that the hearing be delayed, and the Executive Officer agreed to delay the hearing until the 26/27 January 2006 meeting.

The Revised tentative Cease and Desist Order (Revision 2) was issued for public review on 2 December 2005, and comments were due by 21 December 2005. Staff received comments from Rancho Murieta Community Services District and Rancho Murieta Country Club, Regency Centers Rancho North Properties, LLC; and Cassano Kamilos Homes, Inc. RMCS and RMCC requested a hearing to resolve several outstanding issues. Additional communication was received from RMCC on 30 December 2005. Copies of the comment letters received by 30 December 2005 are provided as Attachment D of this Staff Report.

The Dischargers' Concerns

Based on letters of 21 November 2005 and 21 December 2005 from Somach, Simmons & Dunn (attorneys representing RMCS and RMCC), staff understand that the Dischargers believe that they are in compliance with WDRs Order No. 5-10-124 and CDO Order No. 5-01-125, and that adoption of a Cease and Desist order is not warranted. Therefore, RMCS and RMCC have requested a hearing to resolve several outstanding issues, as discussed below.

Reclaimed Water Storage Lake Overflows

1. The Dischargers' comments state: "*The basis for the tentative CDO is that Regional Board staff changed its mind about the appropriate mechanism to address infrequent overflows [from the golf course lakes] during the storm season.*" The comments reiterate the fact that the Dischargers submitted an NDPES permit application in 2002 and have complied with all staff requests related to obtaining a permit for overflows from the golf course lakes.

The reclaimed water overflows are only one of four issues addressed in the CDO, and even without this issue the CDO would still be appropriate. Staff has received new direction (the Regional Board's reaction to the Roseville settlement) and has re-evaluated the Discharger's report, which clearly shows that the overflows are neither "infrequent" nor incidental.

2. The Dischargers further state that the Roseville settlement is binding only on the parties to that agreement (i.e., the City of Roseville, the Regional Board, and DeltaKeeper), and that "*...the permit amendment that resulted from that agreement had absolutely nothing whatsoever to do with permitting recycled water runoff from ponds or lakes under the MS4 permit.*"

One of the key factors that staff and the Regional Board must consider is the need to be consistent in regulating similar discharges. While it is true that the settlement agreement does not require that the Regional Board prohibit all discharges of reclaimed water to surface water without an NPDES permit, the fact of the settlement was sufficient cause for staff to assess parallels between that case and Rancho Murieta. Although the Roseville case did not set a legal precedent, it is appropriate for staff to consider the de facto precedent. Therefore, staff re-evaluated whether it would be appropriate and consistent to regulate the country club's discharge of reclaimed wastewater under a storm water permit.

In the case of Rancho Murieta Country Club, regulation of the overflows under the MS4 General Permit is currently not appropriate because the golf course lakes are designed to overflow under ordinary circumstances. Even with its revised management practices, the Country Club estimates that over 18 million gallons will spill during an average rainfall year, and that approximately 48 percent of the spillage will be reclaimed water. Such discharges are inconsistent with both the State Board's guidance memorandum and Roseville's revised waste discharge requirements. However, if the Country Club were to completely drain the lakes prior to the onset of the rainy season, then fill them with fresh water from the Cosumnes River as needed for late season irrigation, staff anticipates that rainy season overflows from the lakes could be regulated under the MS4 General Permit.

3. The Dischargers believe that staff has mischaracterized the nature of the overflows, stating that the spilled water is "... *Title 22 tertiary treated recycled water, suitable for direct beneficial use.*" Further, they state that the Executive Director's memorandum "...*recognizes that is appropriate to regulate overflows from recycled water ponds through the MS4 permit so long as pollutants are reduced to the maximum extent practicable and the permits are designed to achieve water quality objectives.*"

First, it is not misleading to characterize the reclaimed water overflows as wastewater. Although the reclaimed water has received conventional treatment to remove readily degradable organic compounds and has been disinfected sufficiently to allow certain beneficial uses with controlled public contact, there is no evidence that Rancho Murieta's reclaimed water has been treated to reduce all pollutants to the maximum practicable extent, and that it will not adversely impact surface waters. Specifically, it has not been treated to remove organic pollutants not subject to removal through conventional oxidation processes, toxic metals, or other salinity constituents.

Second, the State Board's memorandum constitutes guidance only, not policy or regulation. Therefore, although staff considers the memorandum when developing water reclamation requirements, neither staff nor the Regional Board are bound by it.

WWTF Storage and Disposal Capacity

In its comments on the original tentative CDO, RMCS D raised several issues regarding staff's analysis of the WWTF's storage and disposal capacity. Based on those comments, staff re-reviewed the water balance and accompanying support documentation, including RMCS D's electronic version of the spreadsheet model. Attachment E contains copies of the water balance spreadsheet model as used by staff to develop the proposed CDO:

- The first water balance (Table 1) is the same as that originally submitted by RMCS D. It has been annotated by staff to highlight key calculations and results;

- The second spreadsheet (Table 2) shows the same model with certain input values revised by staff so that the model would calculate the current storage and disposal capacity of the WWTF (including consideration of the excess wastewater still in storage from 2003); and
- The third spreadsheet (Table 3) shows the model with input values revised again by staff so that the model would calculate the storage and disposal capacity after RMCS D is able to dispose of the excess wastewater stored in the effluent storage reservoirs.

Based on review of the electronic file, and communications with RMCS D's engineering consultant, staff determined that certain revisions to the tentative CDO were appropriate. These revisions generally do not change the substance of the proposed CDO, but allow the Executive Officer to approve an increase in the flow limitation if and when RMCS D can demonstrate that it has disposed of the excess wastewater, thereby recouping the WWTF's design storage capacity.

However, RMCS D also expressed concern about the following issues, which staff was not able to resolve.

1. RMCS D believes that the capacity issue is not serious enough to warrant a CDO, and that: "...*once the carry-over storage issue is addressed, sufficient irrigation acreage is available to meet the community's needs.*"

First, staff has reviewed the water balance and supporting documentation carefully and disagrees. According to RMCS D's water balance, the total storage capacity of the two effluent storage reservoirs at two feet of freeboard is approximately 746 acre-feet. RMCS D acknowledges that the WWTF is still storing approximately 280 acre-feet (90 million gallons) of excess secondary wastewater due to the delayed startup of the tertiary plant in 2003. Given the excess secondary effluent already stored in the reservoirs and current influent flows, the model clearly shows that the required storage volume will exceed 746 acre-feet in April if the 100-year precipitation event occurs this winter (see Table 2 of Attachment E).

RMCS D stated that RMCC often can accept additional reclaimed water in the early spring and late fall in lieu of using irrigation water from the Cosumnes River, thereby reducing the volume of secondary effluent carried over from 2003. Staff recognizes that demand for irrigation water varies from year to year depending on precipitation amounts and weather patterns. In some years, it is likely that RMCC could accept additional reclaimed water for irrigation. However, in other years, RMCC will likely need less than the current average year usage. It is also unknown how RMCC will address the reclaimed water overflow issue, and whether resolution will affect the volume that RMCC accepts from RMCS D. Since the weather, and hence reclaimed water needs, cannot be predicted from year to year, RMCS D's storage capacity deficit may or may not cause WDRs violations in the near future. However, based on RMCS D's water balance, staff believes that the potential for freeboard violations posed by the capacity deficit is serious and warrants corrective action.

Second, Rancho Murieta is a growing community. As indicated in the table below, RMCS D currently serves approximately 2,500 homes, some of which are not yet constructed. Based on RMCS D's projected growth estimates, approximately 2,820 homes will be connected to the WWTF within the next five to eight years. Current influent flows are approximately 0.47 million gallons per day and will increase

gradually to approximately 0.59 mgd to accommodate 2,820 homes. At full build-out of the community, influent flows will be over 1.0 mgd.

Parameter	Current Condition	Within Five to Eight Years	Ultimate (Full Build-Out)
Homes Served	2,500	2,820	4,300 to 5,200
Average Daily Flow	0.47 mgd	0.59 mgd	1.00 mgd +
Secondary Treatment Capacity	1.5 mgd	Adequate	Adequate
Tertiary Treatment Capacity	3.0 mgd	Adequate	Adequate
Storage/Disposal Capacity	0.45 mgd	Expansion Required	Expansion Required

Even if RMCS D recovers its design storage capacity of 0.67 mgd, the WWTF capacity would not be sufficient to accommodate the projected growth beyond about 2014. The Sacramento County Department of Environmental Review and Assessment has informed Regional Board staff that there are currently five development proposals under review for the Rancho Murieta community, all of which would be served by RMCS D. These projects would likely increase influent wastewater flows to at least the design capacity of 0.67 mgd. These projects are summarized in the table below.

Project Name	No. of Single Family Residences	CEQA Review Status
The Residences at Rancho Murieta	234	Draft EIR under review; final approval by Board of Supervisors as early as Fall 2006
The Retreats at Rancho Murieta	99	Combined with The Residences for CEQA review purposes
Riverview	154	Previously approved; Administrative Supplemental DEIR in preparation
Lakeview	Greater than 100	Draft EIR issued; applicant considering revising the proposed project to 99 lots
Murieta Gardens	207	Notice of Preparation issued; applicant considering revision of project proposal
Total	793	

Although it is not certain when and if these projects will be approved, it is clear that development will likely continue well beyond 2010. Specifically, RMCS D reports that full build-out of the community is expected to include 4,300 to 5,200 residences, which represents another 1,000 to 1,900 residential sewer connections beyond those already in the planning process.

The current flow limit set forth in the WDRs is 1.5 mgd, which is based only on treatment capacity. There is not a separate flow limit based on storage and disposal capacity, which is significantly less than

1.5 mgd. Therefore, the proposed Order imposes a new flow limit based on the most limiting factor, which is the storage and disposal capacity. This proposed influent flow limitation is 0.52 mgd, which is slightly higher than the current storage/disposal capacity. This limit would allow approximately 180 new connections to come into service while the CSD addresses the capacity problem. When RMCS D is able to dispose of the excess wastewater currently stored at the WWTF, the proposed Order allows the Executive Officer to approve increasing the flow limit to the design storage capacity, which is 0.67 mgd (see Table 3 of Attachment E). According to RMCS D's growth projections, this should be sufficient to meet demand through 2014.

If RMCS D is not able to dispose of the excess wastewater in a timely fashion, the proposed Order may result in curtailment of the projected residential growth rate of 60 connections per year unless the District expands the facility before the November 2009 deadline imposed by the proposed Order.

Although the proposed flow limit is slightly higher than the current storage and disposal capacity, the proposed Order specifically states that the Discharger cannot violate the freeboard requirements of the waste discharge requirements or spill wastewater. To ensure that this does not happen, the District is required to submit and immediately implement a contingency plan to ensure that it always maintains two feet of freeboard and that the ponds do not overflow.

2. RMCS D believes that the contingency plan required by the proposed Order is not necessary because:
"...a long-term solution has already been identified."

Because there is a current capacity deficit and RMCS D cannot guarantee that it will be resolved before the end of the next rainy season, there is a real threat of serious violations that might possibly lead to uncontrolled releases of undisinfected wastewater. Therefore, the proposed CDO appropriately requires that RMCS D prepare and implement a contingency plan to ensure continuous compliance with the WDRs (i.e., maintain two feet of freeboard, prevent surface water overflows) between adoption of the CDO and construction of the facility improvements. The plan can be as brief as desired. Other dischargers have been required to prepare such contingency plans; options proposed have included trucking excess waste to another permitted wastewater treatment facility, installing enhanced evaporators over the storage ponds, removing sludge or otherwise deepening ponds, reducing inflow and infiltration, and water conservation methods. RMCS D will need to evaluate which options are most appropriate for its particular facility.

Nuisance Odors

The Dischargers do not agree that enforcement is appropriate to address the odor complaints received by staff in 2005 because Regional Board staff has not verified them. It is true that staff has not experienced any odors, but it that does not prove that a condition of nuisance does not or could not exist. The California Water Code does not require staff to verify odor conditions prior to taking enforcement actions; it simply requires a finding of a threatened violation of the WDRs. And in fact, staff has found the complaints to be plausible based on the chemical character of the reclaimed water and the specific circumstances under which the reclaimed water is stored and used. Specifically, although treated to tertiary standards and highly disinfected, the reclaimed water contains biodegradable organic compounds and nitrogen, which can serve as food sources for naturally occurring water microbes, such as bacteria and algae. Reclaimed water is stored for indeterminate periods in Bass Lake and Lakes 10/11, which are relatively shallow and therefore subject to warming during the summer. The combination of abundant nutrients, light, and warmth could easily lead to algal blooms. Subsequent die-off of algae could create

anaerobic conditions that cause odors, both at the lakes and during irrigation. Additionally (and/or alternately), incidental storage of reclaimed water within the pressurized golf course sprinkler pipes during non-irrigation periods could create transient anaerobic conditions that are self-correcting once the “stale” water has been flushed from the pipes.

Staff believes that the discharge of reclaimed water at least threatens to create a condition of nuisance. Section 13301 of the California Water Code states, in part, that under such circumstances “...*the board may issue an order to cease and desist and direct that those persons not complying with the requirements...take appropriate remedial or preventive action.*” The proposed Order does just that. Both Dischargers have cooperated with staff’s request to investigate and plan corrective action to address odor problems. In their October 2005 technical report, the Dischargers have identified several possible odor causes and proposed an acceptable program for community outreach, odor complaint resolution, and odor minimization improvements. The proposed CDO requires only that the Dischargers (a) fully implement the odor mitigation program as proposed, and (b) evaluate the program at the end of the 2006 irrigation season, and if necessary, propose additional odor mitigation measures to be implemented in 2007.

Groundwater Degradation

1. RMCSO disputes staff’s analysis of groundwater conditions at the WWTF, stating, “... *there is no competent evidence that the WWTF has caused groundwater degradation...*” and that “...*any exceedances [of the groundwater limitations] result from groundwater limits that are ... place-holder groundwater limits in the 2001 WDR.*” RMCSO stated that the data presented in the tentative CDO strongly suggests that there is “...*no possibility that the WWTF is responsible...*” for increases in groundwater total dissolved solids (TDS) concentrations.

Staff has carefully reviewed all of the groundwater monitoring data, as well as soil survey information not provided by RMCSO in its technical reports. Staff’s review of the groundwater monitoring data and technical reports shows that the well downgradient of the wastewater treatment ponds and sludge drying beds (well MW-2) consistently exhibits evidence of groundwater degradation and/or pollution due to salinity constituents. At this point, the Executive Officer could find that RMCSO is in violation of the Groundwater Limitations of its WDRs and require physical improvements to prevent further groundwater degradation and/or pollution. However, staff’s review of the data finds that there is evidence that local background groundwater quality may vary depending on soil types, and that the single background monitoring well (MW-1) may be representative of background groundwater quality only for the effluent storage reservoirs.

The WWTF is constructed in an area predominated by old dredge tailings. There are two predominant soil series upgradient of the WWTF. The Mokelumne gravelly loam, which is upgradient of the secondary effluent storage reservoirs, is characterized by low pH (3.6 to 5.0) at depths of 10 to 39 inches. The dredge tailings, which are upgradient of the wastewater treatment ponds and sludge drying beds, are characterized by neutral to slightly acidic pH at similar depths (6.1 to 7.3).

Monitoring well MW-1 is the only monitoring well upgradient of the WWTF and currently serves as the background monitoring well. It is completed in the Mokelumne gravelly loam north of the WWTF effluent storage reservoirs. Monitoring data for this well show that background groundwater pH typically ranges from 3.8 to 5.2, which is consistent with the information published in the soil survey. Samples

from MW-1 typically exhibit high TDS (700 to 900 mg/L), sodium (80 to 130 mg/L), and chloride (100 to 150 mg/L). Concentrations of iron and manganese greatly exceed the applicable water quality limits (0.3 mg/L and 0.05 mg/L, respectively) and fluctuate seasonally.

The WWTF effluent storage reservoirs are downgradient of the Mokelumne gravelly loam, and monitoring wells OW-1 and OW-2 are directly downgradient of the effluent storage reservoirs. Groundwater in these two wells is typically acidic, although slightly less so than in the background well. With the exception of manganese, samples from OW-1 typically exhibit similar or lower concentrations of monitored constituents than the background well. With the exception of manganese, OW-2 consistently exhibits lower concentrations of monitored constituents than the background well. Based on this information, it appears that the effluent storage reservoirs have not degraded groundwater quality.

Monitoring Well MW-2 is downgradient of the WWTF treatment ponds and sludge drying beds. According to the BPTC Comprehensive Technical Evaluation report submitted by RMCSD, the sludge drying beds were reconstructed in 2002 with reinforced concrete. Prior to that time, the beds were unlined. Based on monthly monitoring reports submitted by the Discharger, wastewater in the WWTF ponds typically exhibits TDS concentrations ranging from 250 to 350 mg/L. However, TDS concentrations in MW-2 typically range from 1,200 to 1,600 mg/L, and appear to be increasing since monitoring began in 2001. Sodium concentrations in MW-2 have typically exceeded both background well MW-1 and the applicable water quality limit. Nitrate nitrogen concentrations are also greater than background well MW-1, but do not exceed the applicable water quality limit. Chloride concentrations, although typically less than background well MW-1, have been increasing since 2001. The pH of samples obtained from MW-2 ranges from 4.2 to 5.6, indicating some influence from the upgradient acidic soils.

Monitoring well MW-3 is downgradient of the WWTF treatment ponds and the significantly less acidic upgradient dredge tailings. It has historically exhibited the highest pH of all of the wells, ranging from 5.4 to 6.8, and the pH appears to be decreasing since 2001. MW-3 exhibits the lowest TDS, sodium, chloride, iron, and manganese concentrations of all the wells, with typical concentrations below background well MW-1 and the applicable water quality limit. MW-3's nitrate nitrogen concentrations typically exceed background well MW-1, but do not exceed the applicable water quality limit.

If staff were to rely on the CSD's contention that the existing monitoring well network is adequate to characterize both upgradient and downgradient groundwater quality, staff would be forced to conclude based on the monitoring data for MW-2 that the WWTF has polluted groundwater. As stated above, this conclusion would lead to the need for RMCSD to implement physical and/or management changes to prevent further groundwater pollution. Rather than require those actions at this point, a more reasonable approach, based on the monitoring data and other readily available technical information, is to require that the CSD collect more information to confirm whether groundwater has been polluted or whether background concentrations vary at different locations.

At least one additional upgradient well is needed to determine whether conditions upgradient of the wastewater treatment ponds are different than those represented by the current background well, MW-1. Additionally, at least one more well is needed to monitor groundwater downgradient of the treatment ponds, but not downgradient of the sludge drying beds. These new wells will allow staff to determine appropriate groundwater limitations for the facility. Based on the information discussed above, it may be appropriate to assign separate groundwater limitations for wells downgradient of the acidic soils.

Additionally, new downgradient wells should allow staff to better determine the source of groundwater degradation (if any), and determine whether the sludge bed lining project constitutes best practicable treatment and control to prevent unreasonable groundwater degradation in compliance with State Board Resolution No. 68-16.

2. In their 21 December 2005 letter, RMCS D and RMCC requested that the requirement to install additional monitoring wells be delayed until the Dischargers have selected the preferred option for addressing overflows from the golf course storage lakes.

Staff believes that it is not appropriate to delay installing additional monitoring wells at the facility, because the wells are needed regardless of future WWTF expansions or other modifications.

Concerns of Elk Grove Unified School District

In its 21 November 2005 letter, the Elk Grove Unified School District expressed concern that the proposed Order would interfere with its plans to construct a new school to serve the Rancho Murieta community and vicinity. The current elementary school is three miles away from the community and therefore disposes of its wastewater through septic tanks and a leachfield. However, the proposed new school, which would generate up to 20,000 gallons per day of wastewater, would be served by the RMCS D's existing WWTF. The School District requested that the proposed Order be modified to allow the proposed school to receive wastewater service on demand or that some sort of waiver be granted directly to the School District for this purpose.

Based on a recent article published in the Sacramento Bee (see Attachment F), staff understands that the School District plans a new school, but that it has not yet acquired the land for that purpose. Furthermore, the School District has not yet been able to negotiate the purchase of the land that it has selected for the school site. Therefore, it seems unlikely that the school will be completed by early 2007, as suggested by the School District's letter. As noted above, the proposed Order appropriately limits influent flows to the capacity available, and even allows some additional connections before the capacity is actually available. If the CSD is able to resolve the immediate capacity problem sooner, then there may be no impact to the proposed school project. However, such matters, while of concern, are outside the purview of the Regional Board. Presumably, RMCS D will develop an equitable prioritization plan to allocate the remaining capacity to projects under construction, projects approved but not yet started, and planned projects that are not yet approved. Potentially affected parties should work with RMCS D to determine an appropriate schedule for their projects.

Concerns of Three Rancho Murieta Land Developers and Gregory Tenorio

Representatives of three land development companies (Regency Centers, Rancho North Properties, LLC, and Cassano Kamilos Homes, Inc.) and Mr. Tenorio (a private citizen who would like to build a home on a lot he owns) expressed concerns that the flow limitations included in the proposed CDO would adversely impact their plans for developing new residences in Rancho Murieta.

In its 21 November 2005 letter, Regency Centers raised several issues that staff could not address as requested. The comment letters from Rancho North Properties, LLC and Cassano Kamilos Homes, Inc. indicated support for the more detailed comments provided by Regency Centers. These issues are discussed below.

1. Regency Centers states that there is no support for staff's contentions regarding inadequate storage and disposal capacity at the WWTF, and that there is no "...*nexus between the overflow issues and the influent flow limitations*".

Staff's position on this matter is discussed in detail above. As clearly stated in the proposed Order, the issue of overflows from the golf course storage lakes and lack of storage/disposal capacity at the WWTF are separate issues, each of which must be remedied to ensure compliance with the waste discharge requirements and applicable codes and regulations.

Influent flow limitations are set at a level to provide a reasonable certainty that overflows of wastewater will not occur. The Rancho Murieta WDRs establish an influent flow limit of 1.5 mgd. However, this value was calculated based on treatment capacity, not the facility's storage and disposal capacity. If RMCS D allowed influent flows to increase to 1.5 mgd without making any facility improvements, then overflows would occur. It is appropriate to set an influent flow limit based on the treatment, storage, and disposal capacity at the facility, such that overflows are prevented.

2. Regency Centers states that the proposed Order "*inappropriately imposes a powerful and punitive enforcement measure, a limit on the monthly average flow. Such a measure, while not directly establishing a limit on [waste]water connections to the RMCS D, will establish a de facto moratorium on all development in the RMCS D coverage area.*"

In general, waste discharge requirements for municipal WWTFs include flow limitations based on design capacity. Such is the case with Rancho Murieta's waste discharge requirements. However, in reviewing the capacity analysis provided by RMCS D in June 2005, staff discovered that the flow limitations in the current waste discharge requirements do not reflect the true capacity of the WWTF, which is actually limited by its storage and disposal capacity. In preparing the proposed Order, staff sought to correct that oversight by developing a new flow limitation.

However, due to the excess wastewater stored since 2003, the current storage/disposal capacity is less than current flows. The Regional Board generally does not approve flow limitations that exceed actual capacity. However, based on the unique circumstances of this case, staff is recommending that the Regional Board adopt a flow limit that slightly exceeds that actual current capacity. Additionally, once the "lost" storage is recouped, the Executive Officer can approve increased flows up to the design storage/disposal capacity. This approach is quite reasonable and cannot be considered punitive.

The proposed Order does not impose a de facto moratorium on development. It simply enforces an existing constraint that RMCS D apparently failed to recognize and communicate to developers and the Sacramento County Planning and Development Department. Once it becomes aware of such a problem, the Regional Board is then obligated to ensure its correction. As soon as RMCS D can resolve the WWTF capacity issue, whether through short- or long-term improvements, staff would be pleased to process its request for increased flow limits.

In the interim, as discussed above, we presume that RMCS D will develop an equitable prioritization plan to allocate the remaining capacity.

3. Regency Centers believes that adoption of the proposed Order would “...*cause significant material and adverse economic impacts to residents, other water users and businesses in Rancho Murieta...and conflict with state policies for efficient treatment and reuse of water.*”

It has not been shown that adoption of the proposed Order would directly cause any such impacts. Depending on RMCS D’s ability to quickly resolve the capacity issue, there may be no impact at all. Additionally, it should be noted that staff first identified the capacity problem in 2003 and timely notified RMCS D and interested parties of its intent to address the issue through enforcement action. Communications on this matter are part of the public record (as detailed in Attachment A) and are available for review on request. The only reason that enforcement action has been delayed until now is that RMCS D repeatedly failed to provide an adequate, technically supportable analysis of the WWTF’s storage and disposal capacity. That analysis, which was finally submitted in June 2005, clearly demonstrates the problem as cited in the proposed Order. Furthermore, there is nothing about the proposed Order that conflicts with policies regarding water reclamation. The proposed Order correctly and appropriately implements the Basin Plan and applicable codes and regulations.

4. Finally, Regency Centers requests that the Regional Board “...*direct its staff to more closely assess all of the alternatives for resolution of the overflow issue, such as ceasing all reclaimed water discharges, negotiating the adoption of a more appropriate WDR requirements and considering the implementation of existing, feasible technical solutions but as of yet unexplored by Regional Board staff....*”

It is neither the Regional Board’s right³ nor responsibility to assess and select alternatives for compliance with applicable regulations and policies, but rather the discharger’s responsibility. RMCS D and RMCC are free to explore any option or combination of physical or operational changes to address the issues cited in the proposed Order. The appropriate mechanism to propose such changes and obtain revised waste discharge requirement is to submit a Report of Waste Discharge that details the proposed improvements and demonstrates that the proposal will result in compliance with all applicable policies and regulations. Once RMCS D and/or RMCC complete any necessary CEQA review, staff can then prepare, and the Regional Board can then consider adoption of, revised waste discharge requirements for RMCS D and RMCC.

On 28 December 2005, staff sent a letter to the development community, offering to meet with them to discuss their concerns, clarify their basic misunderstandings as to the role of the Regional Board versus the role of the Community Services District, and help them understand the impact of the C&D Order on their development projects. As of the date of this staff report, there has been no response.

Concerns of the California Sportfishing Protection Alliance

In its October 2005 comments on the original tentative CDO, the California Sportfishing Alliance (CSPA) raised two issues. First, they alleged that the discharges of reclaimed water from the golf course ponds into the Cosumnes River are discharges of waste that legally must be regulated by an NPDES permit. CSPA also states that an attempt to regulate the effluent discharges from the golf course ponds is contrary to the terms of the MS4 General Storm Water Permit and therefore its use would be improper in this case.

³ Pursuant to Section 13360 of the California Water Code, which generally prohibits the Regional Board from specifying the manner or method by which a discharger may achieve compliance.

Staff agrees that the current overflows, which are almost 50 percent reclaimed water during an average rainfall year, should not be regulated under the MS4 General Permit. However, if RMCC can manage the ponds so that they do not contain reclaimed water prior to the onset of the rainy season, coverage under the MS4 General Permit may be appropriate. The CDO has been revised to prohibit discharges of reclaimed water from the golf course ponds after January 2008 unless RMCC has obtained an NPDES permit for those discharges.

CSPA's second point is that the golf course ponds are waters of the U.S., and that the act of discharging reclaimed water into them for storage prior to irrigation requires an NPDES permit. Staff disagrees. The golf course ponds are man-made for the purpose of providing water hazards for the golf course and a means to store reclaimed water for irrigation use. Therefore, staff anticipates that an individual NPDES permit would not be required if the lakes do not contain reclaimed water when they overflow.

Concerns of Other Rancho Murieta Residents

Staff received comment letters from six Rancho Murieta residents in November 2005. In general, the comment letters confirm residents' concerns about nuisance odors and WWTF capacity; indicate strong support for the proposed Order; and encourage the Regional Board to enforce applicable regulations and policies. These letters are included in Attachment C.

SUMMARY AND RECOMMENDATION

Staff recommends that the Regional Board adopt the Cease and Desist Order as proposed for the Rancho Murieta Community Services District and Rancho Murieta Country Club.

Attachment A: Case File Chronology of Pertinent Documents
Attachment B: Comment Letters Received in October 2005
Attachment C: Comment Letters Received in November 2005
Attachment D: Comments letters received in December 2005
Attachment E: Water Balance Capacity Analysis Spreadsheets
Attachment F: 27 November 2005 Sacramento Bee Article

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ALO/MRL/WSW: 11-Jan-06